



Agrium Conda Phosphate Operations*
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Soda Springs, ID 83276
Tel: 208-547-4381
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May 23, 2006

EN-06-054

Mr. Dan Pitman
Permit Program Coordinator
Air Quality Division
Idaho Department of Environmental Quality
1410 North Hilton
Boise, Idaho 83706-1255

RECEIVED

MAY 30 2006

DEPARTMENT OF ENVIRONMENTAL QUALITY
BOISE, IDAHO

RE: **Request for Permit Modification of PTC #P-040320, Super Phosphoric Acid Plant and Tier I Operating Permit # TI-040321 dated 4/28/06**

Ref: (a) IDEQ, Mr. Martin Bauer's letter 4/28/06, (Delivering the PTC and Tier I to Agrium)
(b) IDAPA 58.01.01.209.05c

Encl: (1) Agrium \$1,000.00 check for permit modification fee

Dear Dan:

Agrium acknowledges receipt of reference (a) from Mr. Martin Bauer and the hard copy of the SPA expansion Permit to Construct ("the PTC") and Tier I Operating permit ("the Tier I"). We appreciate the efforts of the Idaho DEQ, and your personal efforts, in providing these permits to Agrium.

In accordance with reference (b), Agrium requests a permit modification to both permits. Further, we request a concurrent issuance of a modified PTC and Tier I permit (per IDAPA 58.01.01 Sec. .381.01e). Agrium seeks no changes to point source emissions or total emissions. This permit modification request involves only, (1) administrative or record keeping changes, or (2) exclusion of extraneous emission control equipment. We therefore ask the DEQ to waive the data submittal and public notice requirements of Sec. 200 – 219 and Sec. 300 – 381 and to refer to our previously accepted PTC application to meet those requirements. Enclosed is a PTC application fee of \$1,000.00 in accordance with Sec. 224.

Upon review of the permit documents, Agrium provides this timely response and seeks the following changes to PTC #P-040320 and Tier I #TI-040321:

Item #1:

Non-Applicability of NESHAP Subpart AA and BB

A Tier I permit renewal application was delivered to you and Ken Hanna in person at the IDEQ headquarters in Boise on 4/27/06. In performing the regulatory applicability analysis for the new

Tier I operating permit renewal, it appears that 40 CFR Part 63, Subpart AA and Subpart BB are not applicable to the Agrium facility. 40 CFR Part 63 *National Emission Standards for Hazardous Air Pollutants For Source Categories* (NESHAP) provides regulations for facilities that are major sources of HAPs. Based on current emission calculations for potential to emit (PTE) from this Tier I application, the Agrium facility is not considered a major source of HAPs. Agrium performed a records review and could not find documentation that the facility was considered a major source of HAPs in the past, which would have made this regulation applicable.

Agrium is defined as a major facility in accordance with IDAPA 58.01.01.008.10, since the facility has a potential to emit (PTE) for SO₂, NO_x, and CO of over 100 tons per year, for each pollutant. Agrium is also defined as a *designated facility* in accordance with IDAPA 58.01.01.006.26(u), for the sulfuric acid plant.

Table 1-1, summarizes the total facility PTE, including fugitive emissions.

**Table 1-1
Total Potential to Emit**

Pollutant	Annual Emissions (tons per year)
VOC	5.48
NO _x	147.25
SO _x	944.96
CO	96.27
PM ₁₀	82.45
PM _{2.5}	11.87
Pb	<0.01
HAPs	3.14

- The following regulatory references provide an exclusion from the requirements of Subpart AA and Subpart BB.

40 CFR Part 63, Subpart AA, *National Emission Standards for Hazardous Air Pollutants From Phosphoric Acid Manufacturing*, includes the following statement: "The requirements of this subpart do not apply to the owner or operator of a new or existing phosphoric acid manufacturing plant that is not a major source as defined in Sec. 63.2." (40 CFR Part 63.600 (c))

40 CFR Part 63, Subpart BB, *National Emission Standards for Hazardous Air Pollutants From Phosphate Fertilizers Production Plants*, includes the following statement: "The requirements of this subpart do not apply to the owner or operator of a new or existing phosphate fertilizers production plant that is not a major source as defined in Sec. 63.2." (40 CFR Part 63.620 (c))

The following regulatory reference defines a major source for these NESHAPs.

40 CFR Part 63, Subpart A provides the following definition: "*Major source means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants, unless the Administrator establishes a lesser quantity, or in the case of radionuclides, different criteria from those specified in this sentence.*" (40 CFR 63.2)

It was favorably noted that IDEQ used flexible language in the PTC and Tier I. For example, in Section 6.11, the IDEQ used the phrase, "... .." *Each owner or operator of a new or existing wet-Process Phosphoric Acid Process Line subject to the provisions of 40 CFR 63, Subpart AA shall install, calibrate, maintain and operate a monitoring system, etc.... ..*" However, to streamline the PTC and Tier I, it is requested that references and requirements for these regulations be removed from the PTC and the Tier I Operating Permit. The requirement for quarterly MACT reporting would also be eliminated.

Item #2:

PTC 3.6 Superphosphoric Acid Oxidation Process - NO_x Control

When the Superphosphoric Acid Oxidation Process is operating, the permittee shall comply with the following for purposes of demonstrating compliance with the NO_x emissions rate limit in Permit Condition 3.3:

3.6.1 ~~The permittee shall install, maintain and operate catalytic control equipment to control emissions of NO_x from the Superphosphoric Acid Oxidation Process.~~

3.6.2 The permittee shall install, calibrate, maintain, and operate equipment to continuously measure the NO_x emissions rate, in pounds for each hour of operation and in tons per month, discharged to the atmosphere from the Superphosphoric Acid Oxidation Process stack.

3.6.3 The following NO_x monitor information shall be recorded:

- **on a monthly basis, the NO_x emissions rate shall be recorded in tons per month and tons per each consecutive 12-month period;**
- **all periods during which the NO_x control equipment and/or the NO_x monitor were not operational;**
- **the results of all daily monitor calibrations**

The most recent two years' compilation of data shall be kept on-site, in a log, and shall be made available to DEQ representatives upon request.

3.6.4 Calibration of the continuous NO_x monitor shall be maintained by performing the following:

- calibrations at least daily using a reference gas; and
- calibration in accordance with the manufacturer's specifications or as approved by DEQ.

3.6.5 The NO_x control equipment and the equipment for measuring and recording the NO_x emissions rate shall be maintained and operated according to manufacturer's specifications or as approved by DEQ. For this purpose, the following shall remain on site at all times and shall be made available to DEQ representatives upon request: a copy of the manufacturer's specifications and all DEQ approved operating, maintenance and calibration specifications; and the most recent two years compilation of NO_x monitoring data and maintenance logs for the NO_x monitoring equipment.

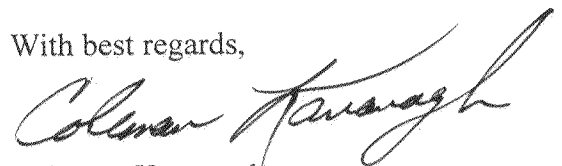
Agrium's response: When phosphate ore from our mine is processed into various grades of phosphoric acid, organic matter from the earth remains in the phosphoric acid. The organics are left in the merchant grade acid, but must be destroyed when making super phosphoric acid. In the super phosphoric acid (SPA) process, nitric acid is added to the SPA to destroy the residual organics. This reaction occurs in the SPA Oxidation Reactor. When the nitric acid oxidation process was initially developed, a wet scrubber, a selective catalytic reaction (SCR) system, and a CEMS were installed down stream of the oxidation reactor to control NO_x emissions. Since this control system was begun in November 2001, we have learned from our CEMS data that the SCR is unnecessary to insure NO_x compliance.

The Horiba™ CEMS is a modern, self-calibrating system that uses a certified gas (by Agrium's choice, not merely a reference gas) and automatically recalibrates daily in accordance with manufacturer's specification. No cylinder gas audit (CGA) in accordance with 40 CFR 60 Appendix F is required or performed since Agrium is not subject to NESHAP Subpart AA or BB. There is no NO_x standard in these NESHAPS. The NO_x reading, in parts per million, is continuously monitored by the control room supervisor to insure source compliance with permit requirements.

Agrium's proposal: Agrium requests that PTC Section 3.6.1 and Tier I Section 6.8.1 requiring catalytic control equipment be deleted. Compliance can be assured through monitoring CEMS stack emissions data. To comply with the new requirements of PTC Sec. 3.6.3 and Tier I Sec.6.8.3, Agrium agrees to modify the output from the DCS data historian to convert from parts per million to estimated tons per month and tons per each consecutive 12-month period based on fan curves.

Questions concerning this request should be referred to me directly at (208) 547-4381 ext. 263.

With best regards,



Coleman Kavanagh
Environmental Supervisor


Agrium Conda Phosphate Operations*

3010 Conda Road
Soda Springs, ID 83276
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Fax: 208-547-2550

July 19, 2006

EN-06-075

Mr. Dan Pitman
Permit Program Coordinator
Air Quality Division
Idaho Department of Environmental Quality
1410 North Hilton
Boise, Idaho 83706-1255

RECEIVED

JUL 24 2006

Department of Environmental Quality
State Air Program

RE: Request for Permit Modification of PTC #P-040320, Super Phosphoric Acid Plant and Tier I Operating Permit # TI-040321 dated 4/28/06

Ref: (a) IDEQ, Mr. Dan Pitman's letter 6/29/06, (PTC Application Incompleteness)
(b) IDAPA 58.01.01.209.05c (Permit Processing Procedures sought by Agrium)
(c) Federal Register/Vol.64 No.111/June 10, 1999 (NESHAP: HAPs of Concern for Phosphoric Acid Industry)

Encl: (1) Agrium Conda Phosphate Operations PTE Summary dated 4/26/06
(2) Agrium Conda Phosphate Operations 2005 Emissions Inventory Summary

Dear Dan:

Agrium acknowledges receipt of reference (a) and provides the following additional information. Again, Dan, thanks for your courteous and professional assistance as Agrium continues to streamline our physical plant systems and regulatory reporting requirements.

In accordance with reference (b), Agrium requests a permit modification to both the referenced PTC and our Tier I permit. Further, we request a concurrent issuance of a modified PTC and Tier I permit (per IDAPA 58.01.01 Sec. .381.01e). Agrium seeks no changes to point source emissions or total emissions. This permit modification request involves only, (1) administrative or record keeping changes, and (2) decommissioning of extraneous emission control equipment.

Item #1:

Non-Applicability of NESHAP Subpart AA and BB

Agrium is defined as a major facility in accordance with IDAPA 58.01.01.008.10, since the facility has a potential to emit (PTE) for SO₂, NO_x, and CO of over 100 tons per year, for each pollutant. Agrium is also defined as a *designated facility* in accordance with IDAPA 58.01.01.006.26(u), for the sulfuric acid plant. Of the HAPs identified in reference (c), only hydrogen fluoride (HF) is above de minimis levels in Agrium's process.

* A Registered Name of Nu-West Industries, Inc.

Enclosure (1) summarizes Agrium's Potential to Emit based on calculations of 4/26/06. This table was submitted to DEQ on 4/28/06 as part of Agrium's Tier I renewal application. Enclosure (2) summarizes the actual 2005 emissions inventory.

HAPs generated at Agrium are attributable to: (1) the minute fraction produced as products of natural gas combustion, and (2) the hydrofluoric acid (HF) estimated 1% of total fluorides¹.

Table 1, summarizes the total facility PTE and actuals for HAPs. Part 63, Subpart AA and BB identify a "first compliance date" of June 10, 2002. Therefore, the estimated actuals and PTE for 2002 are provided. The phosphoric acid manufacturing plant and the phosphate fertilizer production plant were not major HAP sources on June 10, 2002, as defined by 40 CFR 63.2. You will note that in the HAPs summary columns, (past, present and future), the aggregate value is considerably below the regulatory threshold of 10 tons per year. EPA's "once-in-always-in" MACT concept does not apply to Agrium, since the plant was never truly MACT-eligible.

Table 1
Total HAPs

2002 Actuals²	2002 Potential to Emit³	2005 Actuals	2006 Projected Actuals	2006 Potential to Emit⁴
1.74 tons/yr.	3.35 tons/yr.	1.30 tons/yr.	1.30 tons/yr.	3.33 tons/yr.

The following regulatory references provide an exclusion from the requirements of Subpart AA and Subpart BB.

40 CFR Part 63, Subpart AA, *National Emission Standards for Hazardous Air Pollutants From Phosphoric Acid Manufacturing*, includes the following statement: "The requirements of this subpart do not apply to the owner or operator of a new or existing phosphoric acid manufacturing plant that is not a major source as defined in Sec. 63.2." (40 CFR Part 63.600 (c))

40 CFR Part 63, Subpart BB, *National Emission Standards for Hazardous Air Pollutants From Phosphate Fertilizers Production Plants*, includes the following statement: "The requirements of

¹ Emission factor (EF) for HF/fluorine is based on AP-42, Section 8.9 which defines the fluorine emission factor as 1% of the fluoride EF. Agrium conservatively assumed all fluorine to be HF = 0.19 tpy. HF is on the HAP list.

² The 2002 Actuals based on actual percent of year that the equipment operated. Examples: B-5 boiler 92% of 8,760 hours, Thermenol heaters 79.5% of year, Granulation drier 68%, Cleaver-Brooks boiler 83% of year.

³ "Technical Basis for Tier I Operating Permit" 7/24/02, by Bill Rogers & Zach Klotovich. An expansion project emissions table was provided by Monty Johnson (Agrium) to Rogers & Klotovich and included in the 7/24/02 document. Total Fluoride PTE = 12 tpy, therefore using AP-42 Sec.8.9, the HF/fluorines = 0.12 tpy. Calciners ceased operation in Nov. 2001. B-5 boiler, Cleaver-Brooks boiler, Granulation Plant drier, SCR, and thermenol oil heaters HAPs from products of natural gas combustion (AP-42 Sec. 1.4 est. =3.16 tpy) are added to HF/fluorines value to arrive at number shown above.

⁴ PTE Total HAPs is 3.14 tpy from products of natural gas combustion plus 0.19 tpy HF/fluorines

this subpart do not apply to the owner or operator of a new or existing phosphate fertilizers production plant that is not a major source as defined in Sec. 63.2." (40 CFR Part 63.620 (c))

The following regulatory reference defines a major source for these NESHAPs.

40 CFR Part 63, Subpart A provides the following definition: "*Major source means any stationary source or group of stationary sources located within a contiguous area and under common control that emits or has the potential to emit considering controls, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants, unless the Administrator establishes a lesser quantity, or in the case of radionuclides, different criteria from those specified in this sentence.*" (40 CFR 63.2)

Item #2:

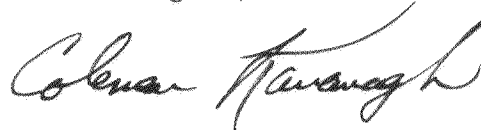
PTC Sec. 3.6 Superphosphoric Acid Oxidation Process - NO_x Control

In our letter of May 23, 2006, Agrium provided rationale for removal of the selective catalytic reactor (SCR) from the PTC and Tier I permits. Removal of the natural gas-fired SCR is a physical change that will result in a decrease in actual emissions of NO_x. Therefore, the requirements of IDAPA 58.01.01.203.02 (NAAQS) and 205 (PSD) are moot. With the SCR off-line, our emissions will go down, not up. Enforceable emission controls on the SPA oxidation process exist by continuing to monitor and record the CEMS data at the stack.

The SCR was originally designed into the system out of an abundance of caution. Good process controls at the point where nitric acid is added to the oxidation reactor have resulted in a very low-emission process. The SCR serves no purpose. It does, however, consume 11.5 cubic feet per minute of natural gas. Elimination of the SCR will reduce criteria pollutant emissions from products of combustion. It will also conserve 6,044,400 cubic feet of natural gas per year. This would be a notable contribution to Agrium's waste minimization and natural resource conservation program.

Questions concerning this request should be referred to me directly at (208) 547-4381 ext. 263.

With best regards,



Coleman Kavanagh
Environmental Supervisor

Responsible Official Certification:

In accordance with IDAPA 58.01.01.123, and "based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete. This certification applies to this letter, the enclosures, and the previous PTC application letter submitted to DEQ dated May 23, 2006.

Sincerely,

Glenn Straub
for CHROSS

Charles H. Ross
General Manager

**Agrium Conda Phosphate Operations
Potential to Emit (PTE) Summary**

Rev. #1

4/26/06

Emission Sources		PM (tpy)	PM10 (tpy)	PM2.5 (tpy)	SO2 (tpy)	NOx (tpy)	CO (tpy)	VOC (tpy)	Fluoride (tpy)	H2SO4 (tpy)	NH3 (tpy)	HAP (tpy)
Phosphoric Acid Production	S-Pa-1	91.11	22.78	3.42					3.78			0.04
Gyp Stack												
Wind Erosion	F-Gyp-1	15.14	7.16	1.07					6.94			
Fugitive Dust												
Heavy Equipment Operation	F-Eqp-1	1.36	0.29	0.10								
Vehicles - Unpaved Plant Roads	F-R-1	7.18	1.85	0.19								
SPA Production	S-Pb-1	80.71	20.18	3.03		7.76						
Nebraska Boiler B-5	S-Nb-1	4.42	4.42	0.66	0.53	70.71	35.40	1.50				0.02
Cleaver Brooks Boiler	A-Cb-1	2.45	2.45	0.37	0.19	33.00	27.13	1.78				1.66
Thermal Oil Heaters	S-Pa-2	1.26	1.26	0.19	0.10	12.16	13.90	0.91				0.61
Cooling Tower (PPA)	CP-3136602	1.09	0.36	0.05								0.31
Cooling Tower (East Plant)	CP-3133013	10.57	3.49	0.52								
Granulation Plant												
Fertilizer Production	S-Fa-1	23.05	5.76	0.86								
Dryer Natural Gas Combustion	S-Fa-2	1.79	1.79	0.27	0.14	23.62	19.84	1.30	6.13		35.00	0.06
Dry Product Storage and Loadout												0.45
Fertilizer Loadout to Trucks	F-Fc-1	15.00	3.75	0.56								
Dry Product Sizing Transfer	F-Fb-1	15.00	3.75	0.56					0.50			
Sulfuric Acid Production	S-Se-1	12.63	3.16	0.01	944.00				0.50	35.40		
Ammonia Sphere (Fugitive)	F-Amm-1										16.30	
Totals, Plantwide		282.77	82.45	11.87	944.96	147.25	96.27	5.48	19.34	35.40	51.30	3.14

**Agrium Conda Phosphate Operations
2005 Emission Inventory Summary**

Emission Sources		PM (tpy)	PM10 (tpy)	PM2.5 (tpy)	SO2 (tpy)	NOx (tpy)	CO (tpy)	VOC (tpy)	HAP (tpy)
Phosphoric Acid Production	S-Pa-1	3.62	3.62	0.54					
Sulfuric Acid Production	S-Se-1	11.05	2.76	0.41	676.00				
SPA Production	S-Pb-1	1.14	1.14	0.17					
Cooling Tower (PPA)	CP-3136602	1.09	0.36	0.05		0.45			
Cooling Tower (East Plant)	CP-3133013	10.57	3.49	0.52		30.18	14.83	0.68	0.97
SPA Oxidation Process	S-Ox-1					9.70	11.08	0.73	0.25
Boiler B-5	S-Nb-1	1.51	1.51	0.23	0.31				
Thermal Oil Heaters	S-Pa-2	1.00	1.00	0.15	0.08				
Granulation Plant									
Fertilizer Production	S-Fa-1	15.69	3.92	0.59					
Dryer Natural Gas Combustion	S-Gran-Dr-1	0.34	0.34	0.34	0.03	4.48	3.76	0.25	0.08
Fertilizer Loadout to Trucks	F-Fc-1	2.60	0.65	0.39					
Dry Product Sizing Transfer	F-Fb-1	5.19	1.30	0.19					
Gyp Stack (Wind Erosion)	F-Gyp-1	15.93	7.54	1.13					
Unpaved Roads	F-R-1	7.18	1.85	0.19					
Heavy Equipment Operation	F-Eqp-1	1.36	0.29	0.10					
Totals, Plantwide		78.28	29.77	5.01	676.41	44.81	29.68	1.65	1.30

2005 Plant Production:	Phosphoric Acid Plant	548,463 tpy	Superphosphoric Acid Plant	345,000 tpy
	Sulfuric Acid Plant	413,024 tpy	MAP + APS Granular Product	346,010 tpy



Agrium Conda Phosphate Operations*

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March 22, 2007

File: EN-07-027

Mr. Ken Hanna
Permit Programs
Air Quality Division
Idaho Department of Environmental Quality
1410 North Hilton
Boise, Idaho 83706-1255

RECEIVED

MAR 26 2007

Department of Environmental Quality
State Air Program

Subject: **Partial Withdrawal of Request for Permit Modification of PTC #P-040320,
Super Phosphoric Acid Plant and Tier I Operating Permit # TI-040321 dated
4/28/06**

Ref: (a) Agrium's letter to DEQ dated 7/19/06 (Request for Permit Modification)
(b) Federal Register/Vol.64 No.111/June 10, 1999 (NESHAP: Phosphoric Acid
Manufacturing and Phosphatic Fertilizers Production
(c) IDAPA 58.01.01.209.05c (Permit Processing Procedures sought by Agrium)

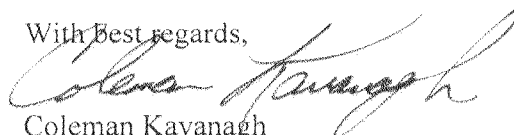
Dear Ken:

Agrium requests withdrawal of that portion of reference (a), Item #1, concerning NESHAP Subpart AA and BB and exclusion from the MACT. Referring to reference (b), *Section B. Technical Basis of Regulation*, EPA decided to use "total fluorides" as a surrogate for the HAP, hydrogen fluoride. Although Agrium (Nu-West) had less than 10 tons per year of HF at the time of promulgation of reference (b), the plant had total fluorides greater than 10 tons per year. We therefore must concede that exclusion from the MACT standards cannot be justified.

Agrium requests that Idaho DEQ continue to review and ultimately approve the request made concerning Item #2, the Superphosphoric Acid Oxidation Process - NO_x Control. Good process controls at the point where nitric acid is added to the oxidation reactor have resulted in a very low-emission process. The SCR serves no purpose. It does, however, consume 11.5 cubic feet per minute of natural gas. Elimination of the SCR will reduce criteria pollutant emissions from products of combustion. It will also conserve 6,044,400 cubic feet of natural gas per year. This would be a notable contribution to Agrium's waste minimization and natural resource conservation program.

Questions concerning this request should be referred to me directly at (208) 547-4381 ext. 263.

With Best regards,



Coleman Kavanagh
Environmental Supervisor

* A Registered Name of Nu-West Industries, Inc.